

(SQ – 10) Water Erosion Management Considerations (Assessment Guide)

Soil Texture	Avail. Water (in./ft.)	Irr. Range (cb)	Soils Intake Family	Inches Applied			Infiltration Assessment (Water Quality)				(K Factor)	Soil Erodibility ^{1/}		
				1.0	2.0	3.0	SAR	Degree of Restriction on Use (ECiw in dS/m)						
								None	Slight to Moderate	Severe				
Sands	0.5	30-40		Infiltration Time (Hrs)			0 – 3	> 0.7	0.7 – 0.2	< 0.2				
Loamy Sands	1.0		0.1	2.8	10.5	22.3	3 - 6	> 1.2	1.2 – 0.3	< 0.3				
Fine Sands	1.25		0.3	1.0	3.5	6.8	6 - 12	> 1.9	1.9 – 0.5	< 0.5				
V. F. Sands			0.5	0.63	2.0	3.8	12-20	> 2.9	2.9 – 1.3	< 1.3				
L. F. Sands			0.75	0.48	1.5	2.8	20-40	> 5.0	5.0 – 2.9	< 2.9				
Loamy Very Fine Sands			1.0	0.33	1.0	1.8	SAR = 4, ECiw = 1.1 dS/m (restriction on use: slight)							
Sandy Loam	1.5	1.25	0.28	0.8	1.5			Hydrologic Soil Group (HSG) Undrained soils						
Fine Sandy Loam		1.5	0.23	0.7	1.3	Soil Structure	Downward movement of H ₂ O	A	Runoff Potential Highest ----- Lowest					
Very Fine Sandy Loam	2.0	1.75	0.20	0.6	1.1	Single Grain	Rapid	B						
Loam		0.6 Intake; 2.5” applied and 2.6 hrs. to infiltrate			Granular	Moderate	C							
Silt Loam					Blocky		Slow	D						
Silt					Prismatic	Soil is Granular (Rapid)								
Sandy Clay Loam	2.2	Surface Irrigation System – Graded Border Program: INPUTS: <ul style="list-style-type: none">CFS = 7.5Net application depth (2”) % field slope (0.001’/ft.)Soil Intake (0.6)Manning’s (n = .15)Field Width (436’)Field Length (600’)			Platy									
Silty Clay Loam					Massive									
Clay Loam												B soil group		
Sandy Clay	2.0	70-80			Example Assessment: Irrigated with Hi-Flow Turn Out							.25-.35		
Silty Clay								➤ Soil: Silt Loam ➤ Soils Intake Family: 0.6 ➤ SAR is 4 & ECiw is 1.1 ➤ <u>Slight restriction on use</u> ➤ Soil Erodibility potential is moderate to high			➤ HSG is B and has a moderate infiltration rate ➤ Soil Structure: Granular ➤ Runoff is 0.11” (erosion is not observed)			
Clay														
Silt Loam: Irrigated at 55 cb														Rudy Garcia 2008

1/ **Clay** is resistant to detachment (low erodibility potential). **Sand** is easily detached (low erodibility potential due to large dense particles). **Silt** **Loam** is moderately detachable (moderate to high erodibility potential). **Silt** is easily detached (high erodibility potential; is easily transported).